**Section 3: Relations** Try It / Solve It

1. Resolve the M:M between TEACHER and CLASS as well as INTERPRETER and LANGUAGE. For each intersection entity, think of additional attributes like a UID.





**Section 4: Supertypes and Subtypes** Try It / Solve It

1. Identify the supertype and subtype of the entity listed below.

DISABILITY

Visual Impairment

Hearing Impairment

Amputation

Paralysis

1. For each rule stated indicate if the rule is applicable to supertypes or subtypes.

\_\_\_\_\_\_\_\_\_\_ They have several attributes in common

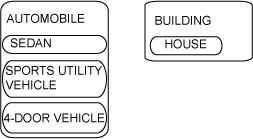
\_\_\_\_\_\_\_\_\_\_ They inherit all attributes and relationships of the entity

\_\_\_\_\_\_\_\_\_\_ Never exists alone

\_\_\_\_\_\_\_\_\_\_ Create one when a group of instances of an entity have special properties

1. Name three things you consider when considering supertypes and subtypes.

1. Find the incorrect subtypes in the illustration. Explain why you think the subtype is incorrect. Adjust the model to improve it.



1. Read the following scenario and construct an ERD that contains at least two subtypes of the entity PRODUCT. Show clearly which attributes belong to the entity supertype, and which belong to one of the subtypes. Identify a UID for the entity.

“Our shops sell several kinds of women’s’ clothing, including dresses, skirts and blouses. Of course each product has a name, a description and a price. Oh, and sizes too: all products have a waist size. Dresses and skirts have a hem length but blouses don’t. Dresses and blouses have a chest size; skirts don’t.”

**Section 5: Relationship Transferability** Try It / Solve It

1. Draw softboxes for each of the following. Draw relationship lines and correctly label each relationship in both directions. Indicate non-transferability when appropriate.

1. Each town may be the birthplace of many people. Each person must be born in one and only one town.

1. Each room may house one or more guests. Each guest may stay in one and only one room.

1. Each employee must work for one and only one department. Each department may have one or more employees.

1. Each hotel may be the host of one or more guests. Each guest may be hosted in one or more hotels.

1. Each message must be addressed to one or more persons. Each person may be the addressee of one or more messages.

1. Each garment must have one and only one price. Each price may be for one or more garments.
2. Each airline coupon must be used for one and only one destination. Each destination may be visited with one or more coupons.

1. Each automobile must use one and only one tire size. Each tire size may be used by one or more automobiles.

1. Each child must have one and only one mother. Each mother must be the parent of one or more children.

1. Each person must be of one and only one blood type. Each blood type may classify one or more persons.

1. A person may be on one or more junk-mail lists. Each junk list may contain one or more persons.

1. Each student may learn from one or more teachers. Each teacher may educate one or more students.

1. Each school may be attended by one or more honor students. Each honor student must attend one and only one school.

1. Each fingerprint must belong to one and only one person. Each person must have one and only one fingerprint.